

SUPER-ORTHOGONAL SPACE-TIME TRELLIS CODES,
AND APPLICATIONS THEREOF

ABSTRACT OF THE DISCLOSURE

A super set of space-time block codes is combined with set partitioning to form super-orthogonal space-time trellis codes having full diversity, enhanced coding gains, and improved rates. In communications systems, these codes are implemented by an encoder of a diverse transmitter to send an information signal to a receiver having one or more receiver elements. A decoder in the receiver decodes the encoded signal to reproduce the information signal. A method of the invention is used to generate set partitioning structures and trellis structures that enable code designers to systematically design the codes of the invention.

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